

Venema Natural Drainage System

Community Meeting
December 2010

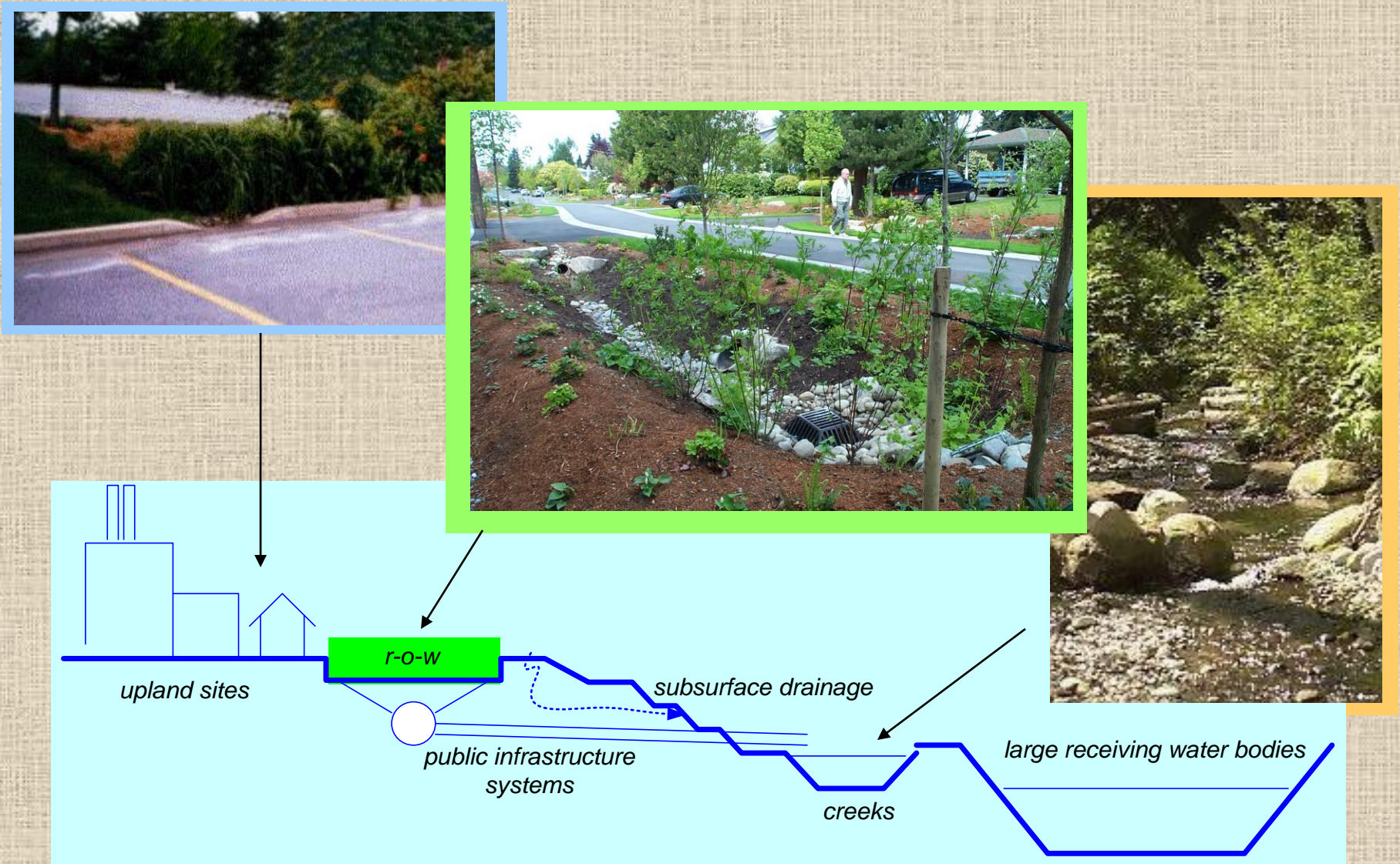
Purpose of NDS project

Purpose: Send cool, clean water to Venema Creek, Pipers Creek, and Puget Sound

We do this by building Natural Drainage Systems to:

- Slow down stormwater,
- Filter it through vegetation and
- Let it soak into the ground (infiltrate)

Opportunities within a watershed

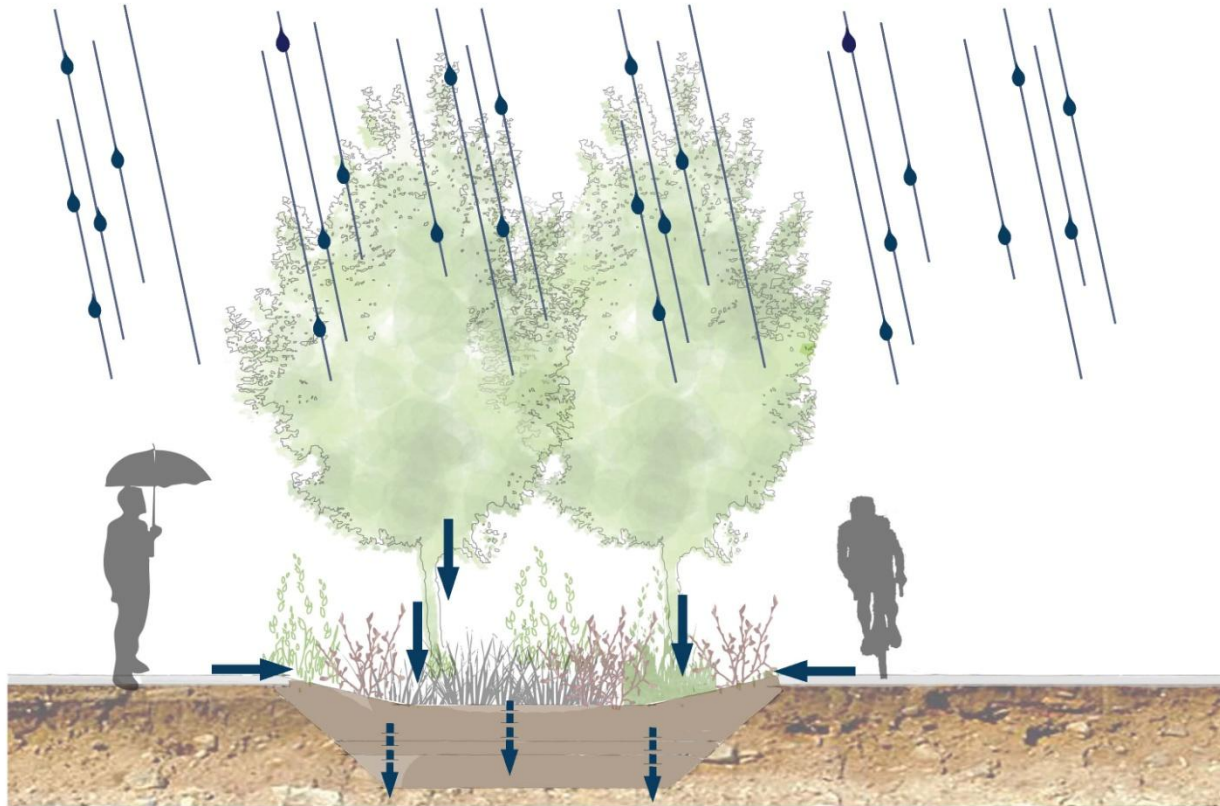


- Piper's Creek Basin = 2.5 square miles

- Predominantly SFR



Nature's Way: let stormwater soak into the ground



infiltration | bioretention cells without underdrain

Existing Conditions: Venema Creek



- Contains good riparian and in-stream habitat
- Cuts through erosion-susceptible sand deposits
- High channel erosion and lack of in-stream grade controls → Channel incision, bank failure, transport of fines
- Upper Venema Creek provides 42% of Piper's sediment supply – fines suffocate salmon redds
- Adult coho and chum use Piper's for spawning

Project location



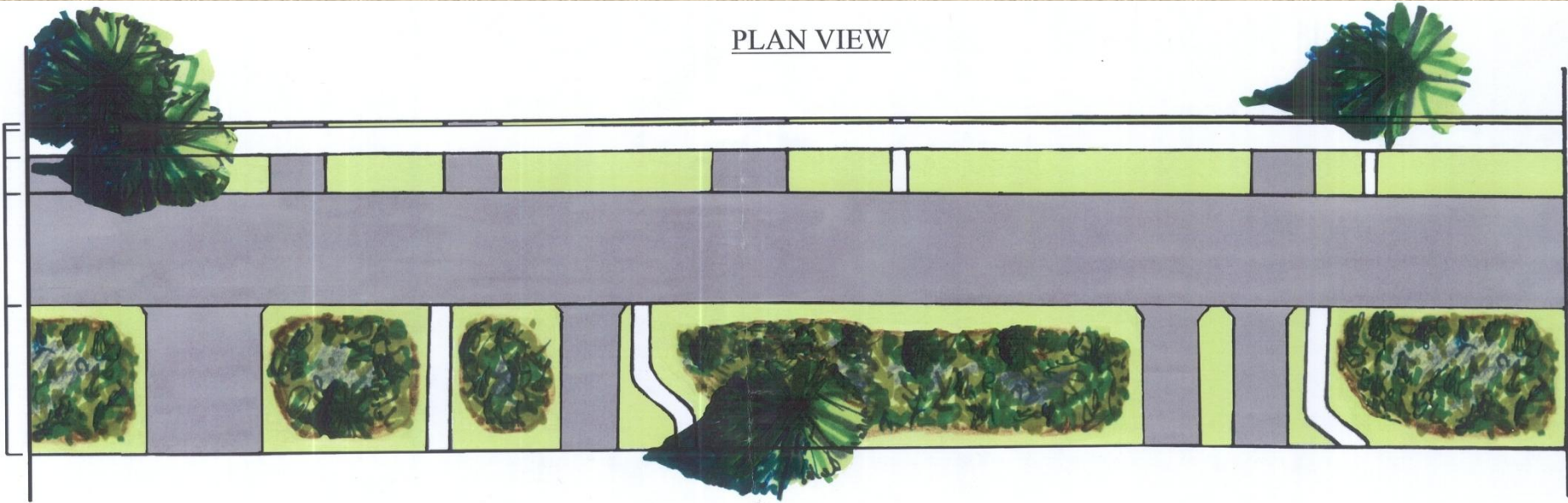
Benefits to You

- Attractive landscaping
- New street
- New wider sidewalk
- Traffic calming
- Drainage conveyance

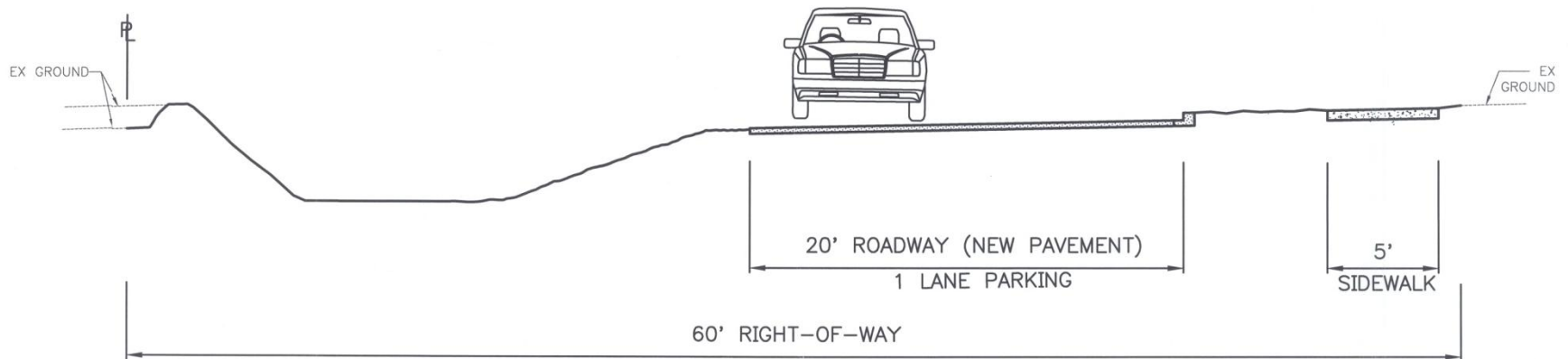


Offset Template

PLAN VIEW



TYPICAL SECTION



High Point Project



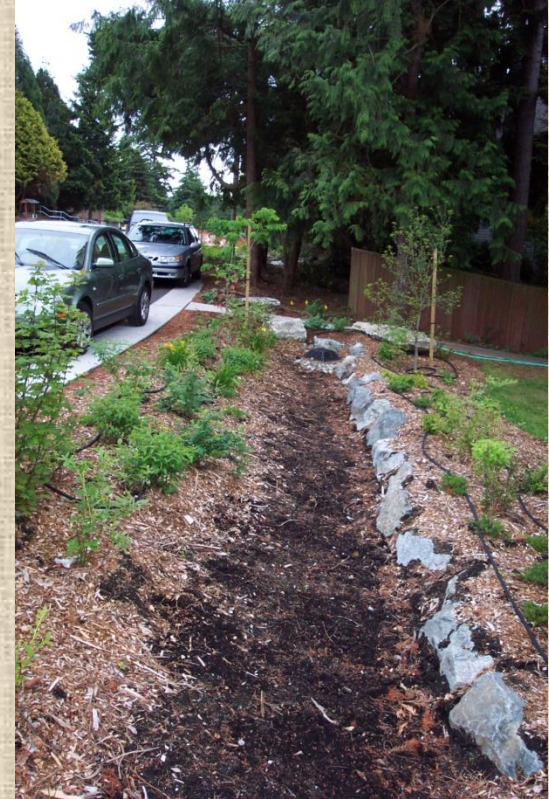
High Point Project



Broadview Green Grid Project



Broadview Green Grid Project



Highpoint - just after a rain storm



Cascade at NW 110th St



Broadview Green Grid



Construction Sequencing



Venema NDS : Concept Drawing (12/08/2010)



Parking



Street	Post-NDS project # parking spaces provided / Peak utilization	Post-NDS # parking spaces per house
1 st Ave NW	0.95	0.95
2 nd Ave NW	1.53	1.3
Palatine Ave N	2.09	1.4
SDOT desired ratio	1.67	

Mail Delivery



Construction

- Scheduled Start – Fall 2011
- Duration – 16 months
- Plant Establishment & Irrigation



Construction



Project Schedule

- Design in 2010 – 2011
- Community input quarterly
- Construction late 2011 – early 2012

The estimated budget is \$5M.

Next Steps

- Incorporate information from tonight's meeting
- Environmental review and checklist
- Community input quarterly
- Next public meeting February/March
- Project website



Contact:

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Questions

We'll break into three groups:

- Palatine Ave
- 2nd Ave
- 120th & 122nd St

Pre-Project Monitoring

- Flow data: (at least 1 yr of data)
 - 4 flow meters
- Physical: (approx. 3 yrs of data)
 - Instream physical habitat & temperature
- Chemical (approx. 3 yrs of data)
 - Metals in sediment
 - Water quality (2006 only)

Pre-Project Monitoring

- Biological (approx. 3 years pre-data)
 - Vertebrates (Fish):
 - Salmon density
 - Growth, movement and survival using PIT tags
 - Benthic macroinvertebrates:
 - BIBI
 - Taxonomic Composition
 - Tissue toxics concentration
 - Periphyton:
 - Taxonomic Composition
 - Tissue Toxics Concentration
 - Biomass

